REMARKS

Reconsideration of this application as amended is requested. By this amendment Applicant has amended claim 1 for clarity. Claims 1, 2 and 4-6 remain in the case.

The Examiner in this instance has made a new grounds of rejection in view of Kumura (US 2007/0036248) and Sato (US 7,142,587). The Examiner objected to claims 1, 2 and 4-6 due to an informality in claim 1; and rejected claims 1,2 and 4-6 under 35 U.S.C. 103(a) as being unpatentable over Kumura in view of Sato and further in view of Junell (US 5,953,649) as to claim 6.

Applicant has amended claim 1 to recite the limitation that the correlating step "uses only real components of the *correlation result* for improved computational efficiency", thereby rendering claim 1 consistent with the disclosure of the invention at pages 11 and 12 that accumulates only the real components of the correlation product, i.e., correlation result. Thus the Examiner's objection to claims 1, 2 and 4-6 is now deemed to be moot.

The Examiner states that Kumura teaches a method of detecting a signal in a receiver by delaying the received signal by a period to produce a reference signal, the delay being an integer multiple of the symbol period (Fig. 1, Par. 6); and by correlating the received signal with a conjugate version of the reference signal to produce a correlation result which is indicative of the location of the frequency correction burst signal within the received signal (Fig. 12, Par. 145). The Examiner states that Kumura does not expressly teach that the correlating step uses only real components of the correlation result for computational efficiency, but that Sato teaches that the correlation step outputs only real components for improved computational efficiency (Col. 6, Lines 38-50). The Examiner concludes that it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Sato into the system of Kumura. Applicant respectfully traverses this nonobvious combination and conclusion by the Examiner.

In contradistinction to Applicant's claimed invention Kumura discloses a frequency offset estimator that produces a complex symbol sequence which is a product of an orthogonally detected complex demodulated symbol sequence and a conjugate complex number of a known symbol sequence. Applicant teaches away from this approach of using a known symbol sequence as taught by Kumura, since Applicant found that the resulting correlation magnitude varies depending upon the frequency offset, which may result in complete destructive

cancellation resulting in FCB signal detection failure (pages 3 and 4). Therefore Applicant generates a reference signal *from the received signal*, the reference signal being a delayed version of the received signal, and then correlates the received signal with a conjugate version of the reference signal, i.e., *a conjugate version of a delayed version of the received signal*. Thus claim 1 is deemed to be allowable as being nonobvious to one of ordinary skill in the art since neither cited reference teaches or suggests correlation of the received signal with a conjugate version of a delayed version of the received signal itself.

Since claims 2 and 4-6 depend from claim 1, deemed to be allowable, these claims also are deemed to be allowable as reciting significant additional limitations to those recited in claim 1.

In view of the foregoing amendment and remarks, allowance of claims 1, 2 and 4-6 is urged, and such action and the issuance of this case are requested.

Respectfully submitted,
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